UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,621	03/09/2001	Pekka Tapio Pessi	460-010211-US(PAR)	7641

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EXAMINER
FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/802,621	PESSI, PEKKA TAPIO
Office Action Summary	Examiner	Art Unit	
	Derrick W. Ferris	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 1/17/2006 has been entered.

Response to Arguments

2.   Applicant's arguments filed 1/17/2006 have been fully considered but they are not

persuasive. In particular, applicant argues limitations recited in the new claims and not

necessarily the previously presented claims. The examiner agrees that the applied reference may

not read on the newly added claim 24. As such, please find a new rejection for the above-

mentioned claims. In addition, with respect to the previously applied rejection, *Forslow* teaches

application layer QoS with respect to application flows, see e.g., column 11, line 55 – column 12,

line 34. Also note that RTP is considered part of an application flow level as taught by *Forslow*.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

4.   **Claims 1-7 and 10** rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent

No. 6,609,832 B2 to *Forslow*.

As to **claim 1**, see e.g., figure 2 where a sender may be a mobile 16 and a receiver

may be a node attached to the ISP 58 and where the communications network could be

either the GPRS network 51 or the IP data network 56. As such, see figure 7 which

shows applications flows as a video, audio, and conferencing application flow. Note in

figure 7 that the QoS is mapped to the application flow. Thus the applications are subject

to "optimization methods" based on the associated application flow. For example, the

solution provides a bearer selection and quality of service parameter mapping layer which

selects for each application flow at the IP layer the best suited one of a circuit-switched

bearer and a packet switch bearer rather than using a multiplexer which would multiplex

all the application flows together, see e.g., column 12, lines 11-24. The quality of service

signaling protocol is RSVP also shown in figure 7 as part of the system control flow, e.g.,

see column 10, line 54 – column 12, line 10 and in particular column 12, lines 1-10.

As to **claim 2**, see figure 7 where a description would be the type of application

such as audio, video or conferencing.

As to **claim 3**, QoS is optimized since a bearer section and quality of service

parameter mapping layer is taught for each application flow, see e.g., column 12, lines

11-35.

As to **claims 4-5**, RTP is taught which is real-time, see e.g., figure 7.

As to **claim 6-7**, RSVP reserves the session at teach node as taught per the RSVP standard. In particular, the RSVP standard teaches a PATH, RESV, and RESVCONF message.

As to **claim 10**, see similar rejection to claim 1.

5.   **Claims 1-4, 6-10, 18, and 20-24** rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application 2004/0022191 A1 to *Bernet et al.* (*"Bernet"*).

As to **claim 1**, *Bernet* teaches applying application layer QoS, see e.g., paragraph 0011 on page 2. In particular, *Bernet* teaches optimizing the process of data streams coming from an application in nodes between a sender and a receiver in a communication network by applying application layer QoS. For example, see e.g., figure 3 which teaches a sender as sender 92, a receiver as receiver 104 and a communications network as the network between the sender and receiver. In particular, note that some routers apply a routing policy (i.e., optimization). As such, with respect to using at least one quality of service signaling protocol in the communications network, *Bernet* teaches modifying RSVP, see e.g., paragraph 0039 on page 4. With respect to causing the use of said at least one quality of service signaling protocol by said application to mark application specific data streams, *Bernet* teaches using at least application identifiers, see e.g., paragraph 0045 on page 5. With respect to identifying at the nodes of the communication network, on the basis of the quality of service signaling, packets belonging to the data stream of said application, and the type of said packets, the application identifiers are forwarded using at least the RSVP protocol. Finally,

subjecting said packets to optimization methods characteristic of said type is taught since

QoS is applied in the network.

As to **claim 2**, RSVP is an example of a QoS signalling protocol.

As to **claim 3**, parameters for optimization are e.g., the fields described for the

RSVP protocol.

As to **claim 4**, QoS is applied for each type of application, see e.g., paragraph

0045 on page 5.

As to **claim 6**, RSVP reserves a state at each router that supports RSVP.

As to **claim 7**, see e.g., paragraph 0039 where the RSVP PATH and RESV

messages are extended to support application layer QoS.

As to **claim 8**, RSVP is the signaling message.

As to **claim 9**, *Bernet* teaches that either RSVP or DiffServ can be used to support

application layer QoS, see e.g., paragraph 0059 on page 6 using e.g., the DCLASS object.

As to **claim 10**, see similar rejection to claim 1.

As to **claim 18**, see e.g., paragraph 0039 of *Bernet* where the RSVP PATH and

RESV messages are extended to support application layer QoS. As the RSVP message

contains the application type.

As to **claim 20**, see e.g., paragraph 0039 of *Bernet* where the RSVP PATH and

RESV messages are extended to support application layer QoS.

As to **claim 21**, subjecting said packets to optimization methods characteristic of

said type is taught since QoS is applied in the network.

As to **claims 22-23**, *Bernet* teaches that either RSVP or DiffServ can be used to

support application layer QoS, see e.g., paragraph 0059 on page 6 using e.g., the

DCLASS object.

As to **claim 24**, see similar rejection to claim 1.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   **Claims 8-9 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 6,609,832 B2 to *Forslow* in view of "Definition of the Differentiated Services Field

(DS) in the IIPv4 or Ipv6 Headers" to *Nichols et al.* ("*Nichols*").

In making a proper obviousness rejection under MPEP 706.02(j), the examiner

will address the following four steps:

> a) *the relevant teachings of the prior art relied upon, preferably with reference
>   to the relevant column or page number(s) and line numbers where
>   appropriate;*
> b) *the difference of differences in the claim(s) over the applied cited references;*
> c) *the proposed modification of the applied reference(s) necessary to arrive at
>   the claimed subject matter; and*
> d) *an explanation why one skilled in the art at the time of the invention was made
>   would have been motivated to make the proposed modification.*

As such to **claims 8-9**, for step (a) *Forslow* discloses the limitations in the parent

claim.

For step (b) *Forslow* is silent or deficient to the further limitation of supporting

DiffServ or the like. In particular, *Forslow* discloses general QoS support and provides

an example of RSVP.

Nichols teaches the further recited limitation above at e.g., see the abstract.

For step (c), the proposed modification of the above-applied reference(s)

necessary to arrive at the claimed subject matter would be to modify *Forslow* by also

using DiffServ.

In order to establish a prima facie case of obviousness for step (d), three basic

criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

*First there must be some suggestion or modification, either in the reference(s)
themselves or in the knowledge generally available to one of ordinary skill in the art, to
modify the reference or to combine the reference teachings. Second, there must be a
reasonable expectation of success. Finally, the prior art reference (or references when
combined) must teach or suggest all the claim limitations.*

As such, for step (d) examiner notes that it would have been obvious to one

skilled in the art prior to applicant's invention to include the further limitation supporting

DiffServ or the like. In particular, the motivation for modifying the reference or to

combine the reference teachings would be to provide QoS without maintaining a state for

each node. In particular, *Nichols* cures the above-cited deficiency by providing a

motivation found at e.g., the abstract. Second, there would be a reasonable expectation of

success since both references support IP, e.g., see figure 7 of *Forslow*. Thus the

references either in singular or in combination teach the above claim limitation(s).

As to **claim 23**, see similar rejection to claim 8.

8.   **Claims 11-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent

No. 6,609,832 B2 to *Forslow* in view of "Efficient Use of Wireless Bandwidth for Multimedia

Applications" to *Larzon et al.* ("*Larzon*").

As to **claim 11**, *Forslow* teaches using RTP packets but may be silent or deficient

to RTP header compression, see e.g., figure 7. *Larzon* teaches RTP header compression

(i.e., CRTP) at e.g., page 188. Thus the examiner proposes to modify *Forslow* to clarify

that CRTP can also be used since CRTP is well known in the art prior to applicant's

invention. Hence examiner notes that it would have been obvious to one skilled in the art

prior to applicant's invention to use RTP header compression. In particular, one skilled

in the art would have been motivated to use RTP header compression for at least the

purpose or reducing the probability of losing packets due to errors. *Larzon* teaches the

above motivation at e.g., right-hand column on page 188. Examiner also notes a

reasonable expectation of success since CRTP is applied to a wireless system.

As to **claims 12-13**, see e.g., column 10, lines 44-45 of *Forslow* where the applied

QoS may be implemented in a gateway device (i.e., router).

As to **claim 14**, see similar rejection to claim 11.

As to **claims 15-16**, see e.g., column 10, lines 44-45 of *Forslow* where the applied

QoS may be implemented in a gateway device (i.e., router).

9.   **Claims 5, 11-17, 19 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent Application 2004/0022191 A1 to *Bernet et al.* ("*Bernet*") in view of

"Compressing IP/UDP/RTP Headers for Low-Speed Serial Links" to *Casner et al.* ("*Casner*").

As such to **claim 5**, *Bernet* discloses the limitations in the base claim.

Bernet is silent or deficient to the further limitation wherein application-specific optimization is used for optimization of an RTP stream. In particular, *Bernet* discloses application level QoS but does not specifically teach RTP as an application, see e.g., paragraph 0045 on page 5.

Casner teaches the further recited limitation above at e.g., the Introduction on page 1.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Bernet* by clarifying that the application is RTP.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be to support IP. In particular, *Casner* cures the above-cited deficiency by providing a motivation found at e.g., the Introduction on page 2.

As to **claim 11**, see similar rejection to claim 5 where *Casner* further teaches multiplexing techniques for RTP, e.g., header compression.

As to **claim 12**, the policy enforced routers support QoS, see e.g., figure 3 of *Bernet*.

As to **claim 13**, see e.g., figure 3 of *Bernet* with respect to router 98.

As to **claim 14**, see similar rejection to claim 11. In addition, *Bernet* further supports multiplexing with respect to packet aggregation.

As to **claim 15**, the policy enforced routers support QoS, see e.g., figure 3 of

Bernet.

As to **claim 16**, see e.g., figure 3 of *Bernet* with respect to router 98.

As to **claim 17**, see similar rejection to claim 5.

As to **claim 19**, see e.g., paragraph 0039 of *Bernet* where the RSVP PATH and

RESV messages are extended to support application layer QoS.

As to **claim 25**, see similar rejection to claim 5.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123.

The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wellington Chin can be reached on (571)272-3134. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
Art Unit 2663

DWF

DERRICK FERRIS
PATENT EXAMINER